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CAMELUS BACTRIANUS, CAMELUS DROMEDARIUS AND THEIR WOOL MORPHOLOGY

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ABSTRACT
This article examines the wool morphology characteristics of Camelus bactrianus, Camelus dromedarius camels and their hybrids in relation to the pasture conditions of the Ustyurt Plateau and the camels' age at parturition. The study discusses and draws conclusions about the differences in wool morphology across pasture areas and in the dynamics of parturition age.

Keywords. Ustyurt Plateau, Camelus bactrianus, Camelus dromedarius, hybrids, wool morphology, pasture areas, parturition age, differences, conclusions.

INTRODUCTION

The properties of camel wool have long been used in medicine for the production of clothing that prevents diseases [4. https://yuz.uz/news].
Camel wool is non-electrostatic, dissipates static charge better than other materials, repels dust, and even protects humans from the effects of electromagnetic fields. According to data from [3. https://agriexpert.ru], wearing therapeutic items made from camel wool, due to the heating effect, dilates blood vessels, improves blood circulation, and activates tissue metabolism and regeneration processes. In some cases, camel wool helps alleviate various symptoms of rheumatic pain, osteochondrosis, neuralgia, neuritis, and arthritis [1.2021], [2.2022].

The research objective. To study and draw conclusions on the wool morphology of Camelus dromedarius and Camelus bactrianus camels in the conditions of the Ustyurt Plateau of the Republic of Karakalpakstan, depending on pasture areas and reproductive age.

The research subjects were wool samples from Camelus bactrianus, Camelus dromedarius, and their hybrids of various reproductive ages.

The focus of the study was on wool morphology indicators in pasture areas and their dynamics across different birth ages.

RESULTS AND DISCUSSION

Although numerous scientists have conducted studies on camel wool morphology, the examination of wool morphology across different birth ages and regions remains insufficient. Therefore, in our research, we set out to study camel wool morphology, specifically investigating the wool morphology of various breeds and their hybrids in the pasture conditions of the Ustyurt Plateau. The experimental results obtained are presented in Table 1 below.

Table 1 Dependence of wool morphology on age at birth

Camel breeds and hybrids	Age of birth	Number of samples	Wool Morphology, %		
			Coarse wool fiber	Interval wool fiber	Fluff wool fiber
			X±Sx		
Camelus bactrianus	1-3 years old	3	4,1±0,32	6,3±0,54	89,6±7,54
	4-6 years old	3	4,8±0,76	6,8±0,58	88,4±7,68
	7-9 years old	3	5,1±0,42	7,2±0,67	87,7±6,98
Camelus dromedarius	1-3 years old	3	4,2±0,36	15,2±1,09	80,6±7,09
	4-6 years old	3	5,3±0,43	16,4±1,08	78,3±6,47
	7-9 years old	3	5,7±0,46	19,5±1,45	74,8±5,98
Hybrids 2/1	1-3 years old	3	4,9±0,43	7,4±0,45	87,7±0,73
	4-6 years old	3	5,1±0,54	7,9±0,39	87,0±0,75
	7-9 years old	3	5,9±0,57	8,4±0,61	85,7±0,78

Analysis of the data presented in Table 1 shows that in Camelus bactrianus camels, the wool morphology at 1-3 years of age consisted of 80.6±7.09% down fibers, 6.3±0.54% intermediate fibers, and 4.1±0.32% coarse fibers. At 4-6 years of age, these indicators were 88.4±7.68%, 6.8±0.58%, and 4.8±0.76% respectively. At 7-9 years of age, they were 87.7±6.98%, 7.2±0.67%, and 5.1±0.42% respectively.

In Camelus dromedarius camels, the wool morphology at 1-3 years of age consisted of 89.6±7.54% down fibers, 15.2±1.09% intermediate fibers, and 4.2±0.36% coarse fibers. At 4-6 years of age, these indicators were 78.3±6.47%, 16.4±1.08%, and 5.3±0.43% respectively. At 7-9 years of age, they were 74.8±5.98%, 19.5±1.45%, and 5.7±0.46% respectively.

In the F2/F1 hybrid generation at 1-3 years of age, the down content was 87.7±0.73%, the intermediate fiber content was 7.4±0.45%, and the coarse fiber content was 4.9±0.43%. In the age dynamics of camels at 4-6 years, these indicators were 87.0±0.75%, 7.9±0.39%, and 5.1±0.54% respectively. By 7-9 years of age, these indicators were 85.7±0.78% down, 8.4±0.61% intermediate, and 5.9±0.57% coarse fibers.

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In conclusion, it can be said that in all breeds and their hybrids, an increase in coarse wool fibers and a decrease in down fibers were observed as the camels aged.

The morphology of wool also depends on the areas where camels are kept. In our experimental work, we decided to collect wool samples from camels kept in various pastures of the Ustyurt Plateau and study their morphology. The results of this experiment are summarized in Table 2.

Table 2 Dependence of wool morphology on camel habitat areas

Camel breeds and hybrids	Pasture areas	Number of samples	Wool Morphology, %		
			Coarse wool fiber	Interval wool fiber	Fluff wool fiber
			X±Sx		
Camelus bactrianus	Northern territory of Ustyurt	3	3,8±0,31	5,7±0,38	90,5±8,12
	Aral Sea coastal area	3	4,2±0,38	6,1±0,53	89,7±7,32
	Southern territory of Ustyurt	3	5,7±0,42	6,9±0,55	87,4±6,43
Camelus dromedarius	Northern territory of Ustyurt	3	5,7±0,36	12,9±1,11	82,2±6,99
	Aral Sea coastal area	3	6,3±0,54	14,6±1,21	79,1±6,23
	Southern territory of Ustyurt	3	7,2±0,57	18,5±1,62	74,3±6,12
Hybrids 2/1	Northern territory of Ustyurt	3	4,4±0,32	7,4±0,63	88,2±0,69
	Aral Sea coastal area	3	5,5±0,42	7,8±0,58	86,7±0,68
	Southern territory of Ustyurt	3	6,8±0,59	8,5±0,77	84,7±0,69

Analysis of the data summarized in Table 2 reveals that in the northern region of the Ustyurt Plateau, Camelus bactrianus camels had the following wool morphology: 90.5±8.12% down fiber, 5.7±0.38% intermediate fiber, and 3.8±0.31% coarse fiber. In the Aral Sea region, these indicators were 89.7±7.32%, 6.1±0.53%, and 4.2±0.38%, respectively.

Regional differences were also observed in Camelus dromedarius camels. In the northern Ustyurt region, the down content was 82.2±6.99%, intermediate fiber 12.9±1.11%, and coarse fiber 5.7±0.36%. In the Aral Sea region, these indicators were 79.1±6.23%, 14.6±1.21%, and 6.3±0.54%, respectively. In the southern Ustyurt region, with a slight decrease in down content, we obtained the following results: 74.3±6.12% down, 18.5±1.62% intermediate fiber, and 7.2±0.57% coarse fiber.

The 2/1 generation hybrids showed intermediate values for these indicators. In the northern Ustyurt region, the down content was 88.2±0.69%, intermediate fiber 7.4±0.63%, and coarse fiber 4.4±0.32%. In the Aral Sea region, these indicators were 86.7±0.68%,

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7.8±0.58%, and 5.5±0.42%, respectively. In the southern Ustyurt region, with a slight decrease in wool quality, the down content was 84.7±0.69%, intermediate fiber 8.5±0.77%, and coarse fiber 6.8±0.59%.

CONCLUSION

It can be said that the pasture areas of the Ustyurt Plateau have a certain influence on the morphology of wool. In the northern regions, all breeds and their hybrids are characterized by a predominance of down, while in the southern regions, the amount of coarse wool increases.

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